

ROBOGUIDE®-HandlingPRO™

Basic Description

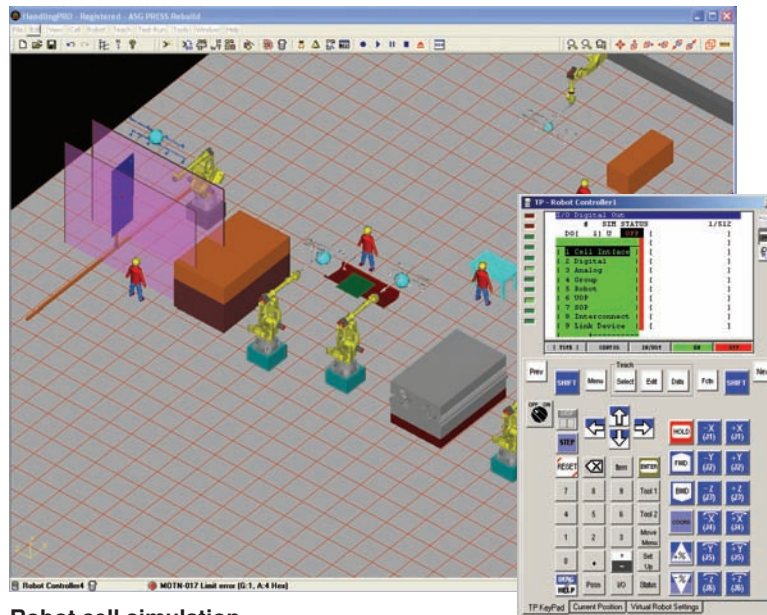
HandlingPRO is a member of FANUC Robotics' ROBOGUIDE family of offline robot simulation software products built on the Virtual Robot Controller. HandlingPRO allows users to simulate a robotic process in 3-D space or conduct feasibility studies for robotic applications without the physical need and expense of a prototype work cell setup. HandlingPRO includes Integrated Virtual Teach Pendant that looks and operates like a real Teach Pendant. Virtual Teach Pendant is used for jogging, programming and simulating the Virtual Robot on a PC.

With HandlingPRO, sales, proposal and application engineers can import unique CAD models of parts, create a workcell including machines, part transfer devices and obstacles and teach robot paths to simulate the operation and performance of a multi-robot workcell. Reach verification, collision detection, accurate cycle time estimates and other visual system operations are simulated in HandlingPRO's unique and graphical virtual environment. HandlingPRO is recommended for material handling applications including load/unload, packaging, assembly and material removal.

Benefits

- With HandlingPRO, robot applications can be validated in a virtual environment without the time-consuming and costly need to acquire an actual robot, associated parts, tooling and machines.
- Through the use of CAD models and HandlingPRO simulation, projects and applications are qualified quicker and more accurately than through common manual methods.

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Robot cell simulation

Virtual iPendant

- HandlingPRO also allows for offline "what if" scenario simulations. Users can improve and touch up existing robotic applications without experiencing downtime and lost production.
- HandlingPRO provides the most accurate cycle time information for FANUC robots compared to any other simulation package available in the industry.

Features

- **Workcell Wizard** – Guides the user through the workcell development process including robot model selection, controller selection, robot software selection, etc.
- **The FANUC robot library** – Quick access to any FANUC robot for system layout and simulation. Each robot model comes complete with an associated Virtual Robot Controller and a 3-D CAD model of a FANUC robot.
- **Built-in CAD models** – Instant access to many commonly used fixtures, tables, conveyors and end-of-arm tools. Additional simple 3-D geometric shapes are provided as modeling tools to create custom machines, tools and/or fixtures.

- **Fixture Programming** – Optimizes programming process by minimizing robot positioning and alignment operations.
- **CAD Import/Export (IGES files)** – CAD models of existing parts, fixtures and grippers can be imported directly into HandlingPRO to build system layouts and to evaluate system operation.
- **Robot Programming** – HandlingPRO supports automatic path generation from a CAD model of the part. It also allows teaching of robot path via built-in Virtual Teach Pendant.
- **Cell Calibration and User Frame** – WorkCell and User Frame calibration is supported by HandlingPRO to simulate real robot programming features for the virtual robot.
- **Robot reach check** – A 3-D view of the robot work envelope is provided for layout of parts, fixtures and other cell components effectively within the workcell.
- **Cycle time validation** – A calculated, accurate cycle time data can be output from running the taught robot program in simulation mode.

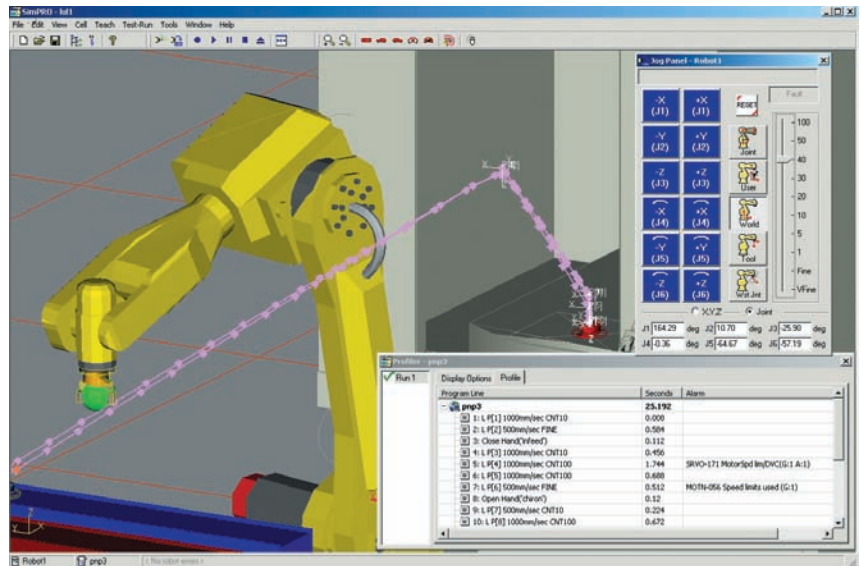
FANUC
Robotics

- **Collision detection** – Visual identification of collisions during the robot simulation helps to avoid collision and allows the relocation of the robot, tooling and/or part before an actual robot becomes installed in the plant.
- **Shared I/O** – Allows I/O mapping between the robots within a workcell for communication and synchronization purposes.
- **Auxiliary Axis** – Allows simulation of robot systems that includes additional axes such as a linear track, turntable or even another robot configured as an additional motion group.
- **Line Tracking** – Allows simulation of robot systems where the robot performs a programmed operation on a part while the part is moving along a linear or circular path.
- **Remote Tool Center Point** – Allows quick teaching of robot path and simulation of robot systems where an external machine operates on a part held by the robot.
- **Profiler** – The teach pendant program profiler allows programs to be reviewed quickly for timing bottlenecks and operational slowdowns. Processing problems can be avoided long before the robot is placed into production.
- **TP Trace** – A unique capability to display the actual robot motion vs. the taught path. It includes a TP trace by speed, orientation and acceleration, allowing touch up of the robot program before the robot is actually deployed.
- **Animation AVI** – Allows the user to record the simulation of the robot system for later customer presentation and/or proposal uses. This system simulation video can be easily copied to a CD or other formats and delivered as needed as part of any system quotation or presentation.
- **Integrated KCL Command Line** – Provides KAREL command execution for KAREL programmers.

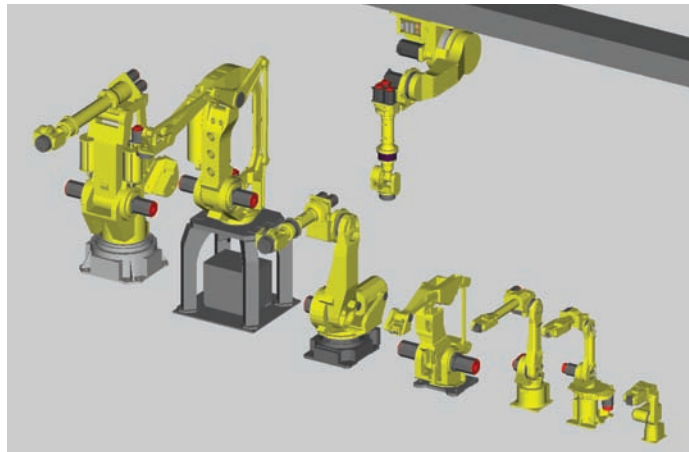
Recommended PC Requirements

- 2.4 GHz Pentium® 4 with Windows® 2000 Professional or Windows XP Professional
- 1 GB RAM and 1 GB Free Hard Disk Space
- OpenGL Video Card
- 10/100 BaseT Ethernet Card
- 32X CD-ROM Drive

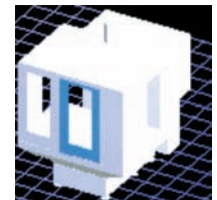
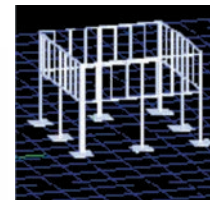
Example output of HandlingPRO Cycle Time Profiler



FANUC robot library



Built-in CAD models



Intelligent Robot Solutions



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